PB90-178021

Superfund Record of Decision (EPA Region 5) New Brighton/Arden Hills, Minnesota (Fourth Remedial Action), (Amendment), August 1989

(U.S.) Environmental Protection Agency, Washington, DC

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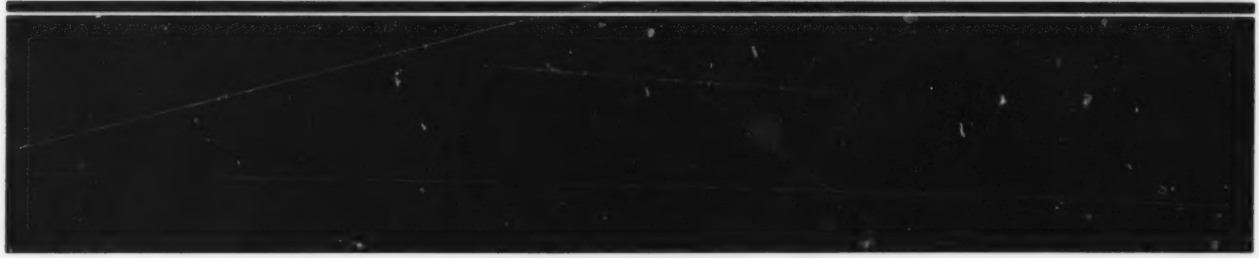
EPA

Superfund Record of Decision:

New Brighton/Arden Hills, MN (Amendment)



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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The New Brighton/Arden Hills site is an area of organic solvent contamination in ground water northwest of Minneapolis, Minnesota. The site includes the cities of New Brighton, Arden Hills, and St. Anthony as well as the Twin Cities Army Ammunition plant. This Record of Decision (ROD) amends a June 1986 ROD calling for the installation of a new well to provide part of the drinking water supply to New Brighton. Because of major changes in site conditions, EPA has concluded that a new well is no longer necessary to protect human health in New Brighton. Originally it was anticipated that low contamination levels in Well #7 (one of nine municipal wells) could not be assured and that a replacement well in a deeper aquifer was needed to provide an alternate supply of water. However, further data from Well #7 indicate contamination is not increasing. Moreover, a large water supply will be provided by the U.S. Army to New Brighton as part of a litigation settlement, and a system has been installed by the U.S. Army to prevent further contamination from the suspected sources. Therefore, EPA believes it is no longer necessary or cost effective to complete the project. There are no contaminants of concern affecting the ground water associated with Well #7.

The selected remedial action for this ROD amendment is no further action for the Well #7 operable unit and ceasing the installation of a ground water supply well remedy selected in a June 1986 ROD.

17. Document Analysis a. Descriptors

Record of Decision - New Brighton/Arden Hills, MN
Fourth Remedial Action (Amendment)
Contaminated Media: None
Key Contaminants: None

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) None	21. No. of Pages 13
	20. Security Class (This Page) None	22. Price

(See ANSI-Z39.18) See Instructions on Reverse OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce

Declaration of Amended Record of Decision

Site Name and Location

New Brighton/Arden Hills
City of New Brighton Alternate Water Supply (Well #13)
New Brighton, Minnesota

Statement of Basis and Purpose

This decision document changes a decision made on June 30, 1986 to construct a new well (number 13) to replace an existing well (number 7) in New Brighton, Minnesota. At the time, data indicated that well number 7 might become contaminated.

This decision document amends the 1986 ROD by revoking the decision to build Well #13 and by recommending that no more funds be spent on the Well #13 project. This decision document was developed in accordance with the Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA) as amended by SARA, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for the site. The attached index identifies the items that comprise the administrative record upon which the decision described in this document is based.

The State of Minnesota has concurred with this decision and has indicated that U.S. EPA's decision is consistent with its policy and rules.

Description of Amended Remedy

The operable unit proposed in the June 30, 1986 decision document was to provide an alternate water supply due to indications that municipal Well #7 for the City of New Brighton could become contaminated. At that time the City water supply capacity was approximately 7.9 million gallons per day (MGD) (including 1 MGD from suspect Well #7). It was determined that it was necessary to ensure this capacity be maintained.

The 1986 Record of Decision provided for this assurance by construction of a new municipal Well #13 in the uncontaminated Mt. Simon-Hinckley aquifer. Because of long lead times for implementation, the decision was to implement the new well before the suspect contaminated Well #7 reached levels of contamination that required immediate agency action..

This Amended Record of Decision revokes the June 30, 1986 decision. U.S. EPA no longer believes that construction of Well #13 is necessary to protect human health because:

1) Further data from the suspect Well #7 indicates contamination is not increasing;

2) A large water supply will be provided by the U.S. Army to the City of New Brighton as part of a litigation settlement; and

3) A system has been installed by the U.S. Army to prevent further contamination from the suspected source.

Under the National Contir ency Plan, a response actior may be conducted as an operable unit prior to the selection of an overall remedy, provided such action is cost-effective and consistent with a permanent remedy (40 CFR 300.68). Because of the change since 1986, U.S. EPA no longer believes Well #13 is a cost effective response.

Declaration

This decision to halt implementation prior to actual construction of Well #13 as originally proposed in the June 30, 1986 Record of Decision is protective of human health and the environment. Because this decision affects an operable unit of the overall site remedy and because the objective of the operable unit was to provide an alternative water supply, rather than to clean-up the site, statutory requirements concerning cleanup standards and treatment technology do not apply. These statutory requirements will be met by the overall remedy for the New Brighton/Arden Hills site.

Franklin M. Adamkus

Valdas V. Adamkus
Regional Administrator
Region V

AUG 11 1989

Decision Summary

Introduction

The New Brighton/Arden Hills Superfund Site is located Northwest of Minneapolis and includes the Cities of New Brighton, Arden Hills, and St. Anthony as well as the Twin Cities Army Ammunition plant. On June 30, 1986, U.S. EPA signed a Record of Decision (ROD) calling for the installation of a new well to provide part of the drinking water supply to the City of New Brighton, Minnesota. Due to lack of reauthorization of the Superfund law from October 1985 to October 1986, funding for this project was not available until May 1987. The remedial design for the project is now complete. If the conditions which brought about the ROD had continued to apply, U.S. EPA would, at this point, have proceeded with the remedial action phase of the project and installed the new well, as planned. However, because there have been major changes in these conditions, U.S. EPA has concluded that a new well is no longer necessary to protect human health in New Brighton and that completing the project would be inconsistent with the CERCLA requirement that response actions be cost-effective. U.S. EPA has therefore decided to amend the ROD and reverse its decision to install a new well.

Under Section 117 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S. C. 9617 (c)), if U.S. EPA takes any remedial action which differs in any significant respect from a final remedial action plan, the Agency is required to publish an explanation of the significant differences and the reasons such changes were made. The decision by U.S. EPA to cancel its plans to install a new well in New Brighton constitutes such a significant difference. Accordingly, U.S. EPA presented its explanation of the significant differences and its rationale for the proposed changes. This notice for the proposed change was published on November 28, 1988 in a major local newspaper of general circulation. Comments from the public were accepted through January 28, 1989. A public meeting was held to present the proposed amendment on December 13, 1988. After reviewing public comments, the Agency has decided to issue an Amended Record of Decision. A responsiveness summary addressing all significant comments received on the proposed changes is issued with this document.

This document is part of the administrative record which is available for public inspection at the New Brighton City Hall vault area, 803 5th Avenue New Brighton, between 8:00 a.m. to 4:30 p.m. on weekdays; at the Twin Cities Army Ammunition Plant, Lobby of Building 105, from 7:30 a.m to 3:30 p.m.; and at U.S. EPA, 230 S. Dearborn Street, Chicago, Illinois, 8:30 A.M. to 4:00 P.M.

2.0 SITE HISTORY

In June 1981, the Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Health (MDH) detected organic solvent contamination in the groundwater used for municipal drinking water in New Brighton. At the time, the City of New Brighton was operating nine municipal wells, each of which tapped the shallower Prairie du Chien/Jordan aquifer.

Several initial remedial measures (IRMs) were implemented at the site under the Superfund Program. In 1983, the U.S. EPA installed granular activated carbon filters on two municipal wells (5 and 6) to meet peak demands. Under a state-lead Interim Remedial Measure (IRM) in 1983, residents dependent upon contaminated private wells were connected to municipal water mains.

Between 1982 and 1984, New Brighton shut down six of its municipal wells (1-6), deepened two municipal wells (8 and 9) to tap the Mt. Simon-Hinckley aquifer, and constructed three new wells (10-12) which also tapped the Mt. Simon-Hinckley aquifer. The sole remaining municipal well tapping the Prairie du Chien aquifer was Well #7, which was capable of supplying 1100 gallons per minute or approximately 1.3 million gallons per day (1.3 MGD).

In its June 30, 1986 ROD, U.S. EPA proposed to drill an additional well into the Mt. Simon-Hinckley aquifer to replace Well #7. At the time of the ROD, water from Well #7 contained levels of carcinogens below the 10^{-6} excess cancer risk level and met all enforceable drinking water standards. However, because of the history of rapid changes in contaminant levels in the other municipal wells tapping the Prairie du chien/Jordan aquifer, U.S. EPA concluded that continued low contamination levels in Well #7 could not be assured. U.S. EPA also concluded that to protect human health in New Brighton, New Brighton needed the amount of water supplied by Well #7 to supplement the city's total capacity at the time. In other words, Well #7 could not simply be shut down, but had to be replaced in order to assure New Brighton the minimum amount of water necessary to protect public health and welfare. Therefore, because of the need for a supply of water equivalent to Well #7 for emergency and standby use, the uncertainty concerning the long-term purity of Well #7, and the long lead times required for response actions, U.S. EPA and MPCA decided to investigate supply and treatment options capable of replacing Well #7's capacity before Well #7 became contaminated above levels of concern. This investigation resulted in the June 30, 1986 Record of Decision to replace Well #7 with a new well, Well #13, tapping the Mt. Simon-Hinckley aquifer.

Although the ROD was signed in June 1986, the project could not be funded at that time. Funding had to wait until after Congress reauthorized Superfund in October 1986. Initial partial funding was made available in May 1987 and was followed by additional funding in July and October 1987. More funds were allocated for the project in March 1988.

3.0 PETITION FOR REVIEW

On August 24, 1988, the United States Army officially requested that U.S. EPA review its ROD of June 30, 1986, in view of changes in circumstances affecting New Brighton's water supply. This request was the latest in a series submitted by the Army, asking the Agency to suspend work on Well #13. The Agency had refused to review its ROD until the Army formally committed itself, through an agreement signed both by the Army and the City of New Brighton, to provide New Brighton with clean drinking water. This condition having been met on August 4, 1988, the Agency agreed to review the 1986 ROD as requested in the Army's petition of August 24, 1988.

4.0 REASONS FOR AMENDING THE ROD

There have been major changes in circumstances since the ROD was signed in June 1986. The most important change is that the City of New Brighton and the U.S. Army signed an agreement, under which the Army will provide New Brighton with four million gallons of drinking water per day (4 MGD). The Army is currently providing New Brighton with water from a temporary system and has assured that supply in its Record of Decision, dated May 10, 1988, and the settlement agreement. The water will be pumped from wells that New Brighton previously shut down (Wells 3-6) and will be treated with granular activated carbon to a point where it meets federal and state drinking water standards. At the time U.S. EPA signed the ROD for Well #7, the provision of this amount of potable water from wells New Brighton had shut down was not anticipated.

A second change is that more data is now available concerning contamination in Well #7. For the past two years, the water quality of Well #7 has changed very little. As a result, the Agency is now less concerned that a sudden increase in contamination in Well #7 will occur.

Finally, since October 1987, the U.S. Army has been operating a boundary groundwater recovery system which minimizes contamination migration from the Twin Cities Army Ammunition Plant (TCAAP) from reaching New Brighton's municipal wells.

Under the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), U.S. EPA is authorized to undertake response actions to protect human health or the environment. Section 121 of CERCLA states that response actions should be in accord with the National Contingency Plan and "provide for cost-effective response." Under the National Contingency Plan, a response action may be conducted as an operable unit prior to the selection of an overall remedy, provided that such action is cost-effective and consistent with a permanent remedy (40 CFR 300.68 (c) (3)).

At the time the ROD was signed, U.S. EPA concluded that all of the above conditions were satisfied. In June 1986, New Brighton's municipal water system was capable of producing 7.6 million gallons of clean drinking water per day, 1.3 million gallons of which were contributed by Well #7. U.S. EPA determined that a minimum capacity of approximately 7.5 million gallons per day of potable water was necessary to protect human health in New Brighton. The Agency noted that if Well #7 became contaminated and New Brighton was forced to shut down the well, the city would be faced with a potentially dangerous shortage of drinking water, absent any new source. U.S. EPA decided that a cost-effective response in advance of a permanent remedy at TCAAP would be to drill a new well to replace Well #7.

Today, the conditions which provided the statutory and regulatory bases for U.S. EPA's original ROD no longer exist. U.S. EPA assumed in 1986 that a capacity of approximately 7.5 million gallons of drinking water per day would be necessary to protect human health. With the implementation of the Army's carbon treatment system, New Brighton will have a capacity of 10.9 million gallons of drinking water per day, some 3 million gallons per day more than

U.S. EPA assumed was necessary to protect public health and welfare. Moreover, Well #7 no longer seems threatened with a sudden influx of contamination. Hence, the motive for the original ROD, i.e., the threat to public health and welfare caused by insufficient clean drinking water, no longer exists. U.S. EPA has spent approximately $100,000 to date on this project, mostly for remedial design work. We estimate that to complete the project would cost an additional $840,000. Given that a public health threat no longer exists, the Agency believes that it would not be cost-effective to complete the project.

5.0 COMPARATIVE ANALYSIS

The options available to U.S. EPA are (1) Build the 1986 proposed Well #13 in the uncontaminated Mt.Simon/Hinckley Aquifer and (2) Not build the 1986 proposed Well #13. These options are compared, using nine criteria:

1. Overall Protection of Human Health and the Environment

U. S. EPA has considered the water supply needs of the City of New Brighton (population 23,000). At the time of the 1986 ROD, a supply of approximately 7.5 MGD was judged adequate for protection of human health. No information has been received that changes that estimate from the 1986 ROD. Under the terms of a City of New Brighton-U.S. Army agreement the capacity will increase to approximately 10.9 MGD, a capacity sufficient to protect human health. Consequently any option to provide still greater capacity is not needed for protection of human health.

2. Compliance With ARARs

Section 121(d) of CERCLA requires that where hazardous substances, pollutants or contaminants remain onsite, remedial action should attain a level or standard of control of such materials which at least attains legally applicable or relevant and appropriate requirement (ARARs). However, under Section 121(d)(4)(A), where a remedial action is only part of a total remedial action, the partial remedy need not achieve the cleanup standards required for the overall remedy.

In 1986, the Agency decided to construct Well #13 as an operable unit of the overall remedy. This response action was intended not to clean up the site, but to protect public health by supplying additional drinking water. As such, it did not have to meet the cleanup standards of Section 121(d). Nor does the revocation of the 1986 decision need to meet ARARs. Rather, the obligation to attain the required degree of cleanup applies to the overall remedy. U.S. EPA intends to make sure that the total remedial action meets ARARs.

3. Long Term Effectiveness and Permanence

A well in the Mt. Simon-Hinckley Aquifer such as that proposed in 1986 is permanent. The Minnesota Department of Natural Resources notes continued implementation of such remedies may lead to contamination of the

Mt. Simon-Hinckley Aquifer. Further the City of New Brighton notes that continued pumping of Mt. Simon Wells causes continual draw down requiring reduced pumping rates, making such wells unreliable in the long-run. Such yield decreases are not seen in properly rated Prairie du Chien Wells.

4. Reduction of Toxicity, Mobility or Volume

This criterion is not applicable directly. However, the decision to terminate the Well #13 project is based on New Brighton receiving water from an Army system designed to treat contaminated Prairie du Chien and Jordan aquifer ground water.

5. Short Term Effectiveness

Because the options facing U.S. EPA do not directly address the contamination of the aquifers but rather address the question of an adequate supply of drinking water for the City of New Brighton this criterion is not applicable. The Minnesota Department of Natural Resources and the Minnesota Pollution Control Agency note that installation and pumping of Mt. Simon Wells may have the affect of inducing contamination in this deeper aquifer.

6. Implementability

Either option-building Well #13 as proposed, or cancelling the Well #13 project - is implementable.

7. Costs

Building Well #13 as originally proposed would cost an additional $850,000 for construction. Approximately $100,000 has been spent on completion of design of the well. Not building Well #13 would not require expenditure of this $850,000.

8. State Acceptance

The Minnesota Pollution Control Agency (MPCA) has commented favorably and concurred with U.S. EPA's decision (letter dated January 26, 1989 - Appendix C of the Responsiveness Summary). In brief, the MPCA concluded that:

1) U.S. EPA's arguments for halting Well #13 were convincing;

2) appropriating water from the Mount Simon/Hinckley Aquifer is counter to State policy;

3) better alternatives may exist if additional water is needed or desired by the City of New Brighton.

The policy of the Minnesota Department of Natural Resources (MDNR) is to conserve the Mt. Simon-Hinckley Aquifer (Appendix C of the Responsiveness Summary). MDNR's comments support the U.S. EPA's decision to not build Well #13.

9. Community Acceptance

The City of New Brighton believes that Well #13 should be constructed. The City's position is not that construction of Well #13 is necessary for protection of the residents'health; but rather, that the City's capacity has been diminished by contamination of the regional ground water. The City argues that, because Mount -Simon/Hinckley wells do not yield as much water as Prairie du Chien wells at high pumping rates during the dry season, and because it was hard to replace Prairie du Chien with Mount Simon wells, the City needs additional capacity to assure the same amount of water it had before its wells became contaminated. The U.S. EPA maintains its goal is not to restore the City's historical water capacity but to provide for the protection of human health. U.S. EPA maintains that Well #13 is not needed to do this since the New Brighton-U.S. Army Agreement now assures an adequate supply of water. This treatment system is now being designed and built by the City of New Brighton.

6.0 STATUTORY DETERMINATIONS

The U.S. EPA must make its decision based on consideration of the Statutory requirements of Section 121 of CERCLA. The following summarizes that consideration;

1. Protective of Human Health and the Environment

Under the system agreed upon by the U.S. Army, the City will have a total drinking water capacity of 10.9 MGD. The 1986 ROD would have replaced approximately 1 MGD of water but not expanded the water supply beyond the, then, existing 7.9 MGD. Thus the City of New Brighton has more water available today than was forecasted in 1986 without such a settlement with the Army. The existing deep wells plus the treated water from the Army settlement provides a supply that even the City of New Brighton says is adequate (See comment in Responsiveness Summary).

The supply will meet drinking water standards. The water from Well #7 has not exceeded drinking water standards and has had only low levels of TCE.

2. Attain ARARS

ARARs are generally cleanup standards. Since a cleanup is not at issue here, ARARs are not pertinent. With respect to the water quality standards to be met by the City water supply system, the Drinking Water Standards under the Safe Drinking Water Act apply. The City's system currently meets those standards and will do so in the future.

3. Be Cost Effective

To date, $100,000 has been spent on the Well #13 project. Completion of the project would cost an additional $840,000. Because the well is no longer needed to protect public health, the most cost effective response is to forego any additional expenditure on the well #13 project.

4. Utilize Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable.

While the decision to not build the new well does not address this criterion, neither did the proposed building of Well #13. The water from the GAC treatment system provided by the Army does use treatment and does provide a limited degree of cleanup. The original proposed action would have provided no degree of clean-up and would have posed a small possibility of contaminating a clean aquifer by drilling a well through the contaminated aquifer into a deeper clean aquifer.

5. Address Whether the Preference for Treatment That Reduces Toxicity, Mobility or Volume as Principal Element is Satisfied.

Relying on the treatment system provided by the U.S. Army instead of building Well #13 which draws from an uncontaminated aquifer is more in the spirit of this criterion. The Army GAC system will use water extracted from the contaminated Prairie du Chien/Jordan aquifer(s) and provide treated water to the citizens of New Brighton. This treatment system will contribute to the cleanup of the Prairie du Chien aquifer.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: SEP 27 1989

SUBJECT: Request for Concurrence on the Record of Decision Amendment for Remedial Action at the New Brighton/Arden Hills Site, Minnesota

FROM: Basil G. Constantelos
Waste Management Division

Bertram C. Frey
Acting Regional Counsel

TO: Valdas V. Adamkus
Regional Administrator

By this memorandum we are recommending that you authorize an amendment to the remedial action for the New Brighton/Arden Hills (Twin Cities Army Ammunition Plant (TCAAP)) site by executing the attached Record of Decision (ROD) amendment for an operable unit. This document reverses a decision made on June 30, 1986 to construct a new drinking water well in New Brighton that would replace the existing Well #7. As stated in the ROD, the decision to construct Well #13, is being reversed because of stabilized conditions at the site and the provision of additional drinking water to New Brighton by the U.S. Army.

The ROD Amendment was prepared in accordance with the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq., as Public Law 99-499, the National Contingency Plan, 40 CFR Part 300, and Agency policy. We have reviewed the attached documents and have concluded that the ROD Amendment is both legally and technically sufficient.

Please feel free to contact either of us should you have any questions.

Attachment

AKleinrath:bb:MN/OH Unit 1 Art's disk (bb) 8/4/89-8/28/89-9/8/89 Region

CH-MN/9-11-89

BCF 9/27/89

9/22/89

WB for OSF 9/12/89